

Notice of Allowability

Application No.

09/857,080

Examiner

Sean E Vincent

Applicant(s)

YOSHIZAWA, HIDEO

Art Unit

1731

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to telephone interview of August 12, 2003.
2. ☒ The allowed claim(s) is/are 1-12.
3. ☒ The drawings filed on 31 May 2001 are accepted by the Examiner.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.
5. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
 - (a) ☐ The translation of the foreign language provisional application has been received.
6. ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application. **THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

7. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
8. ☐ CORRECTED DRAWINGS must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No. _____.
 - (b) ☐ including changes required by the proposed drawing correction filed _____, which has been approved by the Examiner.
 - (c) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No. _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet.

9. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1 <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 2 <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3 <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 4 <input checked="" type="checkbox"/> Interview Summary (PTO-413), Paper No. _____ |
| 5 <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449), Paper No. _____ | 6 <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 7 <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material | 8 <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9 <input type="checkbox"/> Other |

Sean E Vincent
Primary Examiner
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EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.
2. Authorization for this examiner's amendment was given in a telephone interview with Douglas Mueller on August 12, 2003.
3. The application has been amended as follows:

In the claims:

1. (Amended) A method for manufacturing a bent glass sheet comprising:

heating a glass sheet in a heating furnace to a temperature where the glass sheet is changeable in shape,

conveying the glass sheet out [off] of the heating furnace, and

bending the glass sheet by pressing the glass sheet together with at least one belt made of a heat-resistant material against a [bending surface] forming face of a bending member,

wherein the glass sheet is bent while the glass sheet is conveyed along the [bending surface] forming face with the belt that travels between the glass sheet and the [bending surface] forming face, and the [bending surface] forming face is curved at least in the direction that is perpendicular to the conveying direction of the glass sheet.

2. (Amended) The method according to claim 1, wherein a degree of curvature of the [bending surface] forming face gradually increases in the conveying direction of the glass sheet.

3. (Amended) The method according to claim 1, wherein the [bending surface] forming face is also curved in the conveying direction of the glass sheet.

4. (original) The method according to claim 1, wherein the glass sheet is conveyed with the belt so that the glass sheet gradually deviates from a direction in which the glass sheet is conveyed from the heating furnace.

5. (previously amended) The method according to claim 3, wherein the glass sheet is bent so as to have a predetermined curvature with respect to the conveying direction.

6. (original) The method according to claim 1, further comprising cooling the glass sheet for quenching or annealing after separating the glass sheet from the belt.

7. (Amended) An apparatus for manufacturing a bent glass sheet comprising:

a heating furnace for heating a glass sheet to a temperature where the glass sheet is changeable in shape, and

a bending apparatus adjacent to the heating furnace so as to accept the glass sheet from the heating furnace and bend the glass sheet while conveying the glass sheet, the bending apparatus including a conveying passage for the glass sheet,

wherein the bending apparatus further includes a bending member having a [bending surface] forming face and at least one belt made of a heat-resistant material for conveying the glass sheet, and the [bending surface] forming face is curved at least in a direction that is perpendicular to the conveying direction of the glass sheet, and at least a portion of the belt is arranged along the [bending surface] forming face of the bending member, thereby contacting the [bending surface] forming face.

8. (Amended) The apparatus according to claim 7, wherein a degree of curvature of the [bending surface] forming face gradually increases in the conveying direction of the glass sheet.

9. (Amended) The apparatus according to claim 7, wherein the [bending surface] forming face is also curved in the conveying direction of the glass sheet.

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10. (original) The apparatus according to claim 7, wherein the conveying passage gradually deviates from a direction in which the glass sheet is conveyed from the heating furnace.

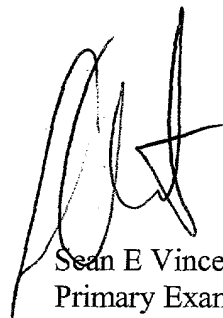
11. (original) The apparatus according to claim 7, further including a cooling apparatus for quenching or annealing the glass sheet adjacent to the bending apparatus.

12. (original) The apparatus according to claim 11, wherein the cooling apparatus includes a curved conveying passage for the glass sheet that has a predetermined curvature with respect to the conveying direction of the glass sheet.

4. The following is an examiner's statement of reasons for allowance: The prior art does not teach or fairly suggest methods for manufacturing bent glass sheet as claimed wherein the glass sheet is bent while the glass sheet is conveyed along the forming face of a bending member with a belt that travels between the glass sheet and the forming face as claimed. Likewise, the prior art does not teach or fairly suggest an apparatus for manufacturing a bent glass sheet as claimed wherein at least a portion of a conveying belt is arranged along the forming face of a bending member, thereby contacting the forming face as claimed. It would not have been obvious to modify the prior art as described above. Applicant's previous patent US 6,279,347 B1 claims similar inventions, but without bending members with forming faces curved in a direction perpendicular to the conveying direction.

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5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sean E Vincent whose telephone number is 703-305-3607. The examiner can normally be reached on M - F (8:30 - 6:00) Second Monday Off.
7. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steven P Griffin can be reached on 703-308-1164. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.
8. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.



Sean E Vincent
Primary Examiner
Art Unit 1731

S Vincent
August 12, 2003